60th
Anniversary

LEADER

2014 PRODUCT CATALOG

LEADER INSTRUMENTS CORPORATION

History

Since its beginning 50 years ago, Leader has earned a worldwide reputation for designing and manufacturing some of the most reliable, practical and cost effective electronic instruments available. Our products were originally developed for production testing and servicing. These are applications in which ease-of-use and highest reliability are essential. By expanding into a broad line of industrial and video instruments, Leader was able to add to these fundamental qualities a cost-performance ratio unequalled in the industry.

Manufacturing quality is built in every step of the way. Only the finest parts are used for optimum reliability. At each production run, sub-assemblies are separately tested before they are integrated into the finished product. Then product is tested. Less than 1% of all Leader products made are ever returned for warranty repair or adjustment.

More and more, Leader products - over 100 of them - are being specified for research, development, production and service applications in addition to over 100 instruments customized for production line applications.

1954	Established Ohmatsu Denki Co., Ltd. at 2596, Kamimeguro 5-chome, Meguro City, Tokyo.
1959	Established Ohmatsu Seiko Co., Ltd. spin off from the machinery division of the company.
1963	Established Osaka Sales Office.
1964	Completion of the second phase of construction of Head Office Building.
1966	Unified the name to LEADER ELECTRONICS CORPORATION.
1969	Established LEADER INSTRUMENTS CORP. as an overseas affiliated company in New York, Northern Kanto Sales Office and Nagoya Sales Office.
1971	Established Sendai Sales Office.
1972	Established Fukuoka Sales Office.
1977	Closed Nagoya Sales Office and established Tokai Sales Office at 164, Barajima-cho, Hamamatsu City.
1980	Established LEADER INSTRUMENTS (H.K.) LTD. as an overseas affiliated company in Hong Kong.
1986	Built Tsunashima Factory anew at 10-35, Tsunashima-higashi 5-chome, Kohoku-ku, Yokoyama City and moved a part of production division over there.
1987	Changed the company name of Ohmatsu Seiko Co., Ltd. to OM Metal Co., Ltd.
	Completion of Los Angeles Office as an overseas affiliated company in America.
1988	Established a resident office in England.
1989	Merged OM Metal Co., Ltd. an affiliated company, (started as a department).
	Established LEADER INSTRUMENTS (EUROPE) LTD. as an overseas affiliated company in England.
1990	Established Hokuriku Sales Office at 4-21, Takaoka-cho, Kanazawa City. Established Singapore Resident Office in Singapore.
1991	Started stock exchange as Japan Securities Dealers Association Quotation System.
1992	Established Kanetsu Sales Office in Kumagaya City, Saitama Pref and Koshin Sales Office in Matsumoto City, Nagano Pref.
1994	Established LEADER INSTRUMENTS ASIA PTE., LTD. in Singapore.
	Certified according to ISO9002 by International Standardization Organization.
1995	Closed Tokai Sales Office and set up Chubu Sales Office at 702, Toyogaoka, Meito-ku, Nagoya City.
1996	Moved Head Office Factory to 11-28, Tsunashima-higashi 6-chome, Kohoku-ku, Yokohama City.
1998	Certified according to upgraded ISO9001 by International Standardization Organization.
	Closed Koshin Sales Office and merged into Chubu Sales Office.
1999	Closed Kitakanto Sales Office and merged into Sales Department of Head Office. Liquidated LEADER INSTRUMENTS (EUROPE) LTD. in Europe.
2002	Liquidated LEADER INSTRUMENTS ASIA PTE., LTD. in Singapore.
2003	Established Beijing Resident Office in Beijing in China.
	Established Dong Guan Resident Office of LEADER INSTRUMENTS (HK) LTD., in Dong Guan in China.
	Closed Kyusyu Sales Office and merged into Kansai Sales Office.
2004	Closed Hokuriku Sales Office and merged into Chubu Sales Office. Established Shanghai Resident Office in Shanghai, China. Cancelled the OTC registration of Japan Securities Dealers Association Quotation System and Listed in Jasdaq Securities Exchange.
2005	Renewed Head Office Building and merged Research Facility into the head office.
2006	Established Service Center in Beijing, China. Established Europe Resident Office in Netherland.
2009	Closed Dong Guan Resident Office in China and merged into LEADER INSTRUMENTS (HK) LTD.
2011	Closed Europe Resident Office in Netherland and merged into LEADER INSTRUMENTS CORP.
2012	Liquidated LEADER INSTRUMENTS (HK) LTD. in Hong Kong. Closed Kan-etsu Sales Office and merged into Headquarters Sales Department.

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LV5490 MULTI WAVEFORM MONITOR
LEADER's First 4K Waveform Monitor

The LV5490 is a waveform monitor supporting 4K video format. It can display up to two 4K 3G-SDI input signals. Eight channels of inputs are available, four are dedicated input connectors with cable length measurement capability, the other four channels are configurable as inputs or outputs with pattern generator functions. The built-in 9-inch LCD monitor is Full HD (1920 x 1080) with wide viewing angle and high color reproduction.

MAIN FEATURES:

- 4K video format compliance (4096 x 2160 or 3840 x 2160)
- Accepts 3G/HD/SD SDI signals.
- 3G-SDI signal can be dual link or quad link for 4K.
- In 3G-SDI (dual link) 4K video inputs, up to four systems can be displayed. In 3G-SDI quad link 4K video inputs, up to two systems can be displayed.
- Up to eight channels of SDI input signals available. Four are dedicated input connectors with cable length measurement capabilities, the other four can be configured as inputs or outputs.
- DVI and HD-SDI Monitor Output
- Digital Audio Option. De-embeds SDI audio signals and displays Lissajous, surround sound and meter displays. The de-embedded audio of the SDI signal can be output as digital audio.

- It can display two sets of HD-SDI dual link signals at the same time.
- Picture Display method can be by quadrants (square division) or by 2-sample interleave processing.
- 4K Pattern Generator function and SDI re-clocked output
- Waveform, vector, picture can be displayed individually or in combination.
- Custom User-defined Layout
- CINELITE® II available (future)
- Frame Capture function.
- Screen Capture function
- A USB mouse can be used to control the LV5490 remotely

AVAILABLE OPTIONS:

- Eye Pattern and Jitter Measurement Display Option
- Dolby® Decode Option
- Digital Audio Option
- External Remote Connector and RJ-45 Connector Options

AVAILABLE ACCESSORIES:

- Rack Mount
- Blank Panel

DIMENSIONS (W x H x D):

8.77" x 7.44" x 14.17" (223mm x 189mm x 360mm)

WEIGHT: 4.72 Kg (10.4 lbs)

LV5770 MULTI SDI MONITOR
The New Standard in HD Test

Our award winning LV5770 Multi-SDI Monitor is an affordable instrument that can monitor two 3G/HD/SD SDI sources simultaneously and display Picture, Waveform, Vector, 5-Bar, CINELITE® II, and Status individually or in various screen combinations. Optional Digital and Analog Audio I/O provide for built-in de-embedding and digital to analog audio conversion. Loudness, lip-sync, surround monitoring and a number of audio centric features make this waveform monitor an ideal audio monitor as well! Eye pattern monitoring and composite input options round out this very affordable test solution.

MAIN FEATURES:

- Accepts two 3G, Dual Link, or SD/HD SDI sources and provides Picture, Waveform, Vector, 5-Bar and Status displays individually or in various screen combinations.
- CINELITE® II included.
- Built-in XGA display (1024 x 768) for superb, crisp waveform and picture representations.
- Eye Pattern & Jitter Measurement capabilities (option 09) for evaluating the condition of SDI feeds.
- "Frame Capture" capabilities allows you to capture single frames in an SDI signal.
- "Screen Capture" feature allows you to capture the entire display as still-image data.
- Autonomous Monitoring and Error Detection. Alarm for Audio Silence/Video Freeze and Video Black.
- ANC Data Analysis, settable Error Levels with Monitoring, Alarms andError Logs with Time Code.
- DVI Rasterized Output mirrors built-in screen.
- 3D Assist available for 3D video signals monitoring.
- HDMI Program Output of the selected source is provided.
- Two Composite Inputs with switched monitor output provides Picture, Waveform and Vector Test Screens for NTSC and PAL Composite Systems (LV5770-OP03A).
- Accepts and Displays On-Picture and Data for Closed Caption (supports both EIA-608-B and EIA-708 systems).

- 16 channels of AES/EBU can be set up as input or outputs (8-input channels and 8-output channels configuration is also available - menu selectable).
- Audio Option supports Loudness, Lip Sync and A/V Delay Measurements, in addition to providing Lissajous and Bar Graph Displays.
- Analog Audio capabilities provide for 8 channels of analog audio (In or Out). The selected Digital Audio can be converted and output as Analog Audio. (Option 42 requires Option 41 installed).
- Dolby® Metadata and Dolby® E Guard Band options.
- Ethernet connectivity allows for remote control over the web. Supports TELNET, FTP, HTTP and SNMP.
- USB Connector allows the use of a flash drive for storing captured screens, presets and software/firmware updates.
- Universal AC Power Supply allows for worldwide use.

AVAILABLE OPTIONS:

- **LV5770-OP03A:** Tri Level Sync and Composite Option
- **LV5770-OP09A:** Eye Pattern & Jitter Measurement Option
- **LV5770-OP41/OP43:** Digital Audio Option
- **LV5770-OP41D/OP43D:** Digital Audio with Dolby® Option
- **LV5770-OP42:** Analog Audio Option

Option 43 vs Option 41	LV5770-OP43	LV5770-OP41
Loudness Log Data function	yes	yes
True Peak Meters	yes	yes
Loudness Log Chart	yes	yes
True Peak Meters and Loudness Log Chart simultaneous display	yes	no
Two Audio Loudness simultaneous display (Bilingual Loudness)	yes	no
Display Channel simultaneously	16ch FUTURE	8ch

LV5330 MULTI SDI MONITOR
A Great Solution in a Compact Form

The LV5330 is a multi-SDI monitor equipped with a precision video signal waveform and vectorscope display via a high-fidelity TFT LCD that produces high quality picture displays. This instrument was developed specifically to address the needs of both creative and technical talent. Various multi-display combinations allow for complete and easy monitoring while full-screen presentations provide a wealth of information and enable detailed review of the material. It also offers an embedded audio signal display featuring Lissajous and level-meter configurations. The LV5330 is not just a measurement tool - it seamlessly integrates into your workflow and allow you to better understand the material you capture while improving communication throughout the production process.

MAIN FEATURES:

■ Monitors two HD/SD SDI sources and displays Picture, CINELITE II (CineLite, CineZone, and custom false colors), CINELITE ADVANCED, Waveform, Vector, 5-Bar, Audio and Status Displays.

■ NEW! S-LOG2 and Custom False Colors display

■ Built-in 6.5" TFT LCD XGA Display (1024 x 768) for superb, crisp waveforms and picture representations.

■ Line Selector - selects any line of the video signal to be displayed and provides waveform, vector and 5-bar representations of the selected line.

■ The camera's composite video output (NTSC or PAL) can be shown on the picture display.

■ Accepts tri-level sync or NTSC/PAL black burst signals facilitating system timing.

■ Up to 8 channels of embedded audio signals can be displayed using audio bar meters.

■ Extracts embedded audio signals and sends two user-selectable audio channels to the headphone jack.

■ Includes "Screen Capture" to capture the displayed image and save it to the internal memory (RAM) or in to an USB memory device.

■ The internal memory holds up to 30 presets allowing quick access to favorite instrument setups.

■ Instrument can be remote controlled from a PC over an Ethernet network.

■ Can be mounted on a tripod for on-camera fitting.

■ Universal AC Power Supply allows for worldwide use.

AVAILABLE OPTIONS:

■ **HISTOGRAM & USER GAMMA DISPLAY - OP01:** This software option enables to show video signals on the LV5330 histogram display. It also enables to convert the user-defined gamma to ITU-R BT709 gamma and S-log, and show the converted signal on the LV5330 picture display.

■ **GAMUT & LEVEL ERROR - OP02:** This option allows to identify the area and time specification in gamut error detection and detection of luminance and chrominance signal level errors.

■ **NEW! SLOG2 & CUSTOM FALSE COLORS DISPLAY - OP-SLOG2:** This option adds an enhancement to the Exposure Evaluation and Gamma Correction for cameras with S-LOG2 (High Key / Low Key function), Zoom-in and Aperture function, and Custom False Colors function.

LV5307 HDMI & SDI TEST MONITOR
From HDMI to SDI to HDMI Simultaneously

Your perfect monitoring companion for professional video applications, this new monitor from LEADER features a bright 7" built-in LCD display with IPS LED backlit panel. The screen contents, including waveform, vector, CineZone (false color) and markers can be output via HDMI to a larger monitor. Easy to use controls with settable quick function buttons nicely complement the comprehensive display and menus.

SDI and HDMI inputs can be cross-converted at the same time. Embedded audio is de-embedded and displayed as 16-channel bar icons on the picture. A built-in speaker allows for quick audio review and headphone outputs are provided. H/V video delay is also user settable and the volume is front panel adjustable.

Picture functions include markers, monochrome, blue-only, red-only and green-only modes; a cross-pulse function is also included. Display color temperature is user-adjustable. Peaking function provides for easy focus setting. RJ-45 control is also included.

The instrument is provided with a tilt stand and the AC adaptor is included.

DISPLAY	
Screen Size	7"
Max. Resolution	1024 x 600
Pixel Pitch	0.05mm x 0.15mm
Brightness	400cd/m^2 (typical)
Contrast Ratio	800:1
Aspect Ratio	16:9
Viewing Angle (H/V)	170°/170°
Color Depth	16.7M (8-bits)
INTERFACE	
SDI In/Out	1/1
HDMI In/Out	1/1
Component (Y, Pb, Pr) In (RCA Jack)	3
AV (Composite) In/Out (RCA Jack)	3/1
RS-485 In/Out	1/1
PC Audio In/Out	1/1
Audio In L/R (16ch de-embedded Audio Selected Output)	1/1
AUDIO	
Built-in Speaker	2W x 1
SDI INPUT SIGNAL FORMAT	
SMPTE 274M	1920 x 1080p / 30, 29.97, 25, 24, 23.98 fps 1920 x 1080i / 60, 59.94, 50
SMPTE 296M	1280 x 720p / 60, 59.94, 50
SMPTE 260M	1280 x 1035i / 60, 59.94, 50
ITU-R BT.656	720 x 576i / 50

MAIN FEATURES:

■ Accepts 3G, SD/HD-SDI, HDMI and Analog sources.

■ Built-in XGA IPS LED Backlit Display (1024 x 600) for superb picture representations.

■ Provides Picture, Inset Waveform, Vector and CINEZONE® (False Colors) displays *(test screens for SDI & HDMI sources only)*.

■ Converts and outputs HDMI to SDI and SDI to HDMI simultaneously.

■ Settable color temperature and user settable adjustments.

■ HDMI output can be set to output the screen contents to a larger monitor (Rasterizer output uses HDMI output).

■ DC Powered (12-18 Vdc). AC Adaptor and Tilt Stand Included.

LV5381 MULTI SDI MONITOR
Up to 4 Input Signals in a Small Monitor

The LV5381 is a waveform monitor that can monitor up to four SDI signals simultaneously. It is optimized for the level adjustment of the outputs of multiple installed cameras.

In the video signal waveform display, vector display, and picture display, multiple input signals can be displayed on top of each other or lined up next to each other. It is also full of useful features, such as a level meter display for embedded audio, an error display that shows video signal peak levels using five bars. Furthermore, the LV5381 can show different combinations of these displays in its multi-screen display.

MAIN FEATURES:

- Accepts up to four HD/SD SDI input signals, which can be displayed on the monitor simultaneously.
- Monitor is an 8.4-inch XGA TFT LCD (1,024 x 768) that boasts high color reproduction. Ideal for picture monitoring as well.
- When displaying inputs simultaneously, they can be set on top of each other or side by side. This makes the LV5381 suitable for adjusting the gain and black balance values of multiple cameras.
- Different waveform color can be set for each input channel.
- Aside from the essential displays for video signal - waveform and vector - the LV5381 can also display the signals as a picture display, audio level meter display, 5-bar display, transmission error detection, and gamut error detection.
- Each of the different displays can be shown on a single screen, or the multi-screen display feature can be used to divide the screen into four areas with a different display shown in each area.
- Standard-equipped with CINELITE® II. The Cinelite® feature makes it easy to manage the

levels of specific points on the picture display. Cinezone makes it possible to check the luminance distribution of the whole picture at a glance.
- NEW! S-LOG2 and Custom False Colors display
- The picture display has a wide variety of picture monitoring features, such as color temperature specification, brightness, contrast, and aperture adjustment. It can also display the location of gamut errors.
- IDs can be assigned to input channels. These are defined from the front panel of the LV5381.
- Accepts a tri-level sync signal or NTSC/PAL black burst signal as its external sync signal.
- Stores up to 30 front panel presets.
- LED-lit panel keys. Makes it easy to identify the keys in dark environments.
- Stores up to 30 presets accessible from the front panel.
- LED-lit panel keys. Makes it easy to identify the keys in dark environments.
- Saves the last settings on the panel in memory.
- Includes a stereo headphone output to monitor the sound.
- Now with 3D Assist functionality available.

AVAILABLE OPTIONS:

- **DUAL LINK - OP01:** This option enables to monitor a pair of dual link signals simultaneously.
- **AUDIO LISSAJOUS - OP02:** The addition of the audio Lissajous option enables the instrument to display the Lissajous curves and the numeric values of levels of the audio embedded in an SDI signal.
- **STATUS -** OP03: Allows to show analysis displays such as the data dump, phase difference and event log displays.
- **3D ASSIST - OP04:** 3D video signals can be evaluated by applying the video signals for the left eye to channel A and the video signal for the right eye to channel B. The available picture display formats are anaglyph, convergence, overlay, and wipe.
- **NEW! SLOG2 & CUSTOM FALSE COLORS DISPLAY - OP-SLOG2:** This option adds an enhancement to the Exposure Evaluation and Gamma Correction for cameras with S-LOG2 (High Key / Low Key function), Zoom-in and Aperture function, and Custom False Colors function.

LV5382 MULTI SDI MONITOR
With the Versatility of an HDMI Connector

The LV5382 is a portable waveform monitor that supports SDI and HDMI[*1] signals. The LV5382 has simultaneous HD-SDI dual input display features and supports HDMI frame-packing, side-by-side, and top-and-bottom formats. A battery option is also available. Thanks to these features, the LV5382 is incredible useful at 3D filming locations.

MAIN FEATURES:

- The LV5382 has two SDI input connectors, two reclocked SDI signal output connectors, one HDMI input connector, and one HDMI output connector.
- The HDMI output connector can actively transmit an HDMI input signal or output an HDMI signal that has been converted from an SDI signal.
- 8.4-inch XGA TFT LCD monitor (1,024 x 768) for high quality picture displays.
- NEW! S-logs and custom color display available.
- It can display waveform, vector, image, audio, status and 5-bar in various combinations or individually.
- The 5-bar display can monitor R-G-B and composite gamut levels.
- The LV5382 always keeps a backup of the current settings. When the LV5382 is restarted, it can be used with the same settings that were in use before it was turned off.

- Standard-equipped with CINELITE® II and CINELITE® Advanced.[*2]
- NEW! S-LOG2 and Custom False Colors display
- Screen Capture feature allows to capture and store the display as a still-image data. Additionally it can be saved as bitmap files to USB memory, which makes possible to view the data on a PC.
- The LV5382 can receive a tri-level sync signal or an NTSC/PAL black burst signal as its external sync signal and then display video signal waveforms with this sync signal as its reference.[*2]
- Stores up to 30 presets accessible from the front panel.
- IDs can be assigned to input signals.
- The LV5382 can deliver the embedded audio of an SDI signal or HDMI signal in stereo through the headphone output jack.

*1: HDCP not supported   *2: This feature is not available for HDMI signals.

AVAILABLE OPTIONS:

- **SLOG2 and CUSTOM FALSE COLORS DISPLAY - OP-SLOG2:** This option adds an enhancement to the Exposure Evaluation and Gamma Correction for cameras with S-LOG2 (High Key / Low Key function), Zoom-in and Aperture function, and Custom False Colors function.
- **3D ASSIST - OP04:** 3D video signals can be evaluated by applying the video signals for the left eye to channel A and the video signal for the right eye to channel B. The available picture display formats are anaglyph, convergence, overlay, and wipe.
- **REMOTE AND TALLY - OP72:** The addition of the remote and tally option enables the LV5382 to load presets and display tallies according to the signals that it receives through the rear-panel remote control connector. This allows the LV5382 to be linked to a switcher or other device.
- **BATTERY MOUNT IDX - OP73:** To mount an IDX battery.
- **BATTERY MOUNT ANTON - OP74:** To mount an Anton Bauer battery.
- **DIMENSIONS (W x H x D):** 8 1/2" x 6 7/8" x 3 3/8" (215mm x 176mm x 85mm)
- **WEIGHT:**   2.1 Kg (4.6 lbs)

LV5980 MULTI SDI MONITOR
The Convenience of Four Sources in a 17" Monitor

The LV5980 is a waveform monitor with a 17-inch TFT display that can be used to monitor up to four SDI signals simultaneously. It is optimized for the level adjustment of the outputs of multiple installed cameras. In the video signal waveform display, vector display and picture display, multiple input signals can be displayed on top of each other or lined up next ot each other. It is also full of useful features such as a level meter display for embedded audio, an error display that indicates transmission errors and a 5-bar display that shows video signal peak levels using five bars. Furthermore, the LV5980 can show different combinations of these displays in its multi-screen display.

MAIN FEATURES:
- Simultaneously monitors 4 HD/SD SDI sources.
- Accepts Dual Link and 2K formats.
- Displays a wide variety of display formats: Waveform, Vector, Picture, 5-Bar, Audio and Status Displays.
- CINELITE® II (CineLite® and CineZone) and CINELITE® ADVANCED.
- XGA (1024 x 768) screen for superb, crisp waveforms and picture representations.
- Screen Capture feature
- Supports Histogram and 3D Assist.

- Can display up to four input SDI signals on top of each other or side by side. This makes it suitable for adjusting the gain and black balance values of multiple cameras.
- Can display Embedded Audio as Lissajous, Bars, Level Meter.
- Stores up to 30 presets.
- Accepts a tri-level sync signal or an NTSC or PAL black burst signal as its external sync signal and use it as a reference.

OPTIONAL ACCESSORIES:
- Tilt Stand (LC 2160)
- Rack Support (LR 2755)
- LCD Protection Panel (LC 2132)
- Battery Mount

- **DIMENSIONS (W x H x D):** 16 3/4" x 13 7/8" x 3 3/4" (425mm x 352mm x 95mm)
- **WEIGHT:** 5.2 Kg (11.46 lbs)
- **ENVIRONMENTAL CONDITIONS:** **Operating Temperature Range:** 0º C to 40º C
  Operating Humidity Range: less than 85% RH (without condensation)
- **POWER REQUIREMENTS:** **Voltage:** 10 to 18 VDC
  Power Consumption: 60 W max.

LV5838 AUDIO MONITORS
Ideal for Audio Console and Master Monitoring

The LV5838 is an extraordinary audio monitor for audio console and master monitoring. The LV5838 measures the audio signals that are embedded in 3G, HD/SD SDI signals and AES/EBU signals. It can display loudness measurements (so your audio is compliant with the latest ATSC and EBU regulations) as well as level meters, Lissajous curves, surround sound fields and audio status independently or in combination. All errors and events can be logged with local time information or time code information that is embedded in video signals. Logs can be stored in an external storage media.

MAIN FEATURES:

- Equipped with 8 connectors (16 channels of AES/EBU signal inputs).
- Support for LPCM as a standard. Dolby®-E, Dolby® Digital, Dolby® Digital Plus as an option.
- Displays Audio Level Meter and Peak Hold Meter, Lissajous curves, Surround Sound fields, Status, Loudness (ATSC A/85, EBU R128), loudness trend chart and log function, Channel Status Analysis, Metadata Analysis (with Dolby option), among others.
- Measures external AES/EBU audio signal amplitude and synchronization.

- Headphone Output
- Supports dBFS, Nordic, BBC, and DIN level meter scales.
- Synchronous measurement of audio signals with black burst, tri-level sync, or CW signals received through the EXT REF connector.
- Frame Location when non-PCM data is detected.
- Error Log with auxiliary packet timecodes.
- Loudness Measurement Channel Switching based on the audio mode of inter-stationary control signals.
- DVI-D Input.
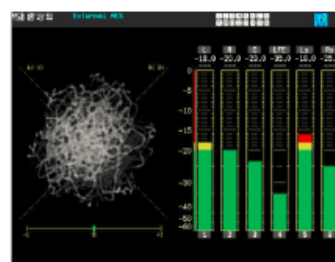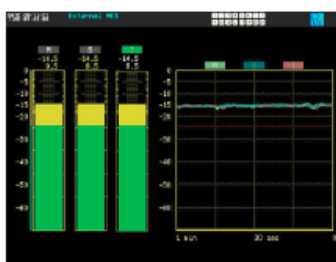
AVAILABLE OPTIONS & ACCESSORIES:

- **DOLBY OPTION:** Provides support for Dolby®-E, Dolby® Digital and Dolby® Digital Plus.
- **LV5838-01:** Remote Controller option (audio mode switching type).
- **LV5838-02:** Simple Loudness Remote Controller Option (measurement control type).
- **LR2752:** Rackmount Adapter

- **DIMENSIONS (W x H x D):** 8 1/2" x 5 1/4" x 3 3/8" (215mm x 128mm x 85mm)

LV5838-01 Remote Controller Option
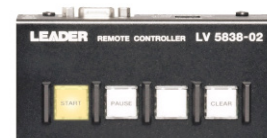
LV5838-02 Simple Loudness Remote Controller Option

LV7770 / LV7770-1 MULTI SDI RASTERIZER
Configurable & Affordable

LV7770 Multi SDI Rasterizer

LV7770-01 Remote Controller

- Accepts two 3G, Dual Link, or SD/HD-SDI sources that can be displayed simultaneously or individually.
- Picture, Waveform, Vector, Audio, CINELITE II, CINELITE Advanced, 5-Bar and Status Displays.
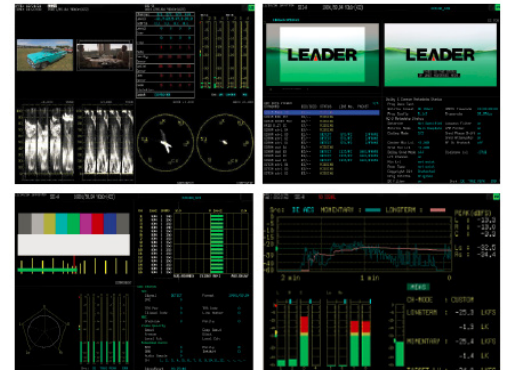- Platform can monitor and display two sources at the same time in two or four split screen displays.
- 3D Assist Display available by applying the video signal for the left eye to channel A and the one for the right eye to channel B.
- DVI-I Rasterized Output displays to external LCD monitor in XGA resolution.
- HDMI Program Output of the selected source is provided.
- Screen Capture, Frame Capture and Error Capture features available.
- Supports options including Physical Layer Testing with Eye Pattern, Digital & Analog Audio and Composite Inputs.

- As standard, digital audio supports Loudness, Lip Sync and A/V Delay Measurements, in addition to providing Lissajous and Bar Graph displays.
- A Dolby option is available for Dolby E or Dolby Digital signals compressed in embedded audio or digital audio signals.
- Data Analysis, Settable Error Levels with Monitoring, Alarms and Error Logs with Time Code.
- USB connector allows the use of a flash drive for storing captured screens, presets and software/firmware updates.
- Ethernet connectivity allows for remote control over the web. Supports TELNET, FTP, HTTP and SNMP.
- It can also be controlled through the LV7770-01 Remote Controller (shown above).
- Universal AC Power Supply allows for worldwide use.

AVAILABLE CONFIGURATION:
LV7770E: Multi SDI rasterizer with Eye Pattern & Jitter measurement board (option 09A).

AVAILABLE OPTIONS:
- *LV5770-OP03A COMPOSITE INPUTS OPTION:* Provides two composite inputs with switched monitor output for Picture, Waveform and Vector test screens for NTSC and PAL composite systems. It accepts analog Tri-level Sync & Black Burst signals for waveform display.
- *LV5770-OP09A EYE PATTERN OPTION:* Provides eye & jitter measurements for 3G, SD/HD SDI inputs. SMPTE recommended filters and auto-measurement is provided.
- *LV5770-OP42 ANALOG AUDIO OPTION:* Provides 8 channels of analog audio I/O. Selected digital audio (discreet or embedded) is converted to analog audio.
- *LV7770-OP70 8ch DIGITAL AUDIO OPTION:* Provides additional 8 channels of AES/EBU I/O through selectable menu. Outputs embedded audio as discreet AES/EBU.
- *LV7770-DOLBY OPTION:* Adds Dolby Digital Support and Dolby Metadata Analysis.

LV7330 MULTI SDI RASTERIZER
A Great Solution in a Compact Form

The LV7330 is a highly functional, compact, light-weight SDI rasterizer that boasts exceptional cost performance. When the LV7330 is connected to an external XGA or WXGA monitor, it can display the picture of an SD/HD SDI signal in addition to video signal waveforms, vectors, audio data and data analyses of the signal. The LV7330 also comes standard-equipped with CINELITE II, a convenient tool for analyzing luminance data.

MAIN FEATURES:

■ Two HD/SD SDI input connectors and one SDI output to send a reclocked SDI signal.

■ One DVI-I connector to an XGA (1024 x 768) display. The LV7330 also uses a squeeze method to support wide aspect ratios of 16:9 (1366 x 768) and 16:10 (1920 x 1200).

■ Different video signal displays, such as Waveform, Vector, 5-Bar, Audio, and Status displays.

■ Different Picture displays, including zoom, various safety markers, brightness, contrast and chroma adjustment. The LV7330 supports CEA/EIA-608 closed captioning and superimposition.

■ The Audio display can show level meters for Loudness, Lissajous curves and surround-sound images for up to 8 channels.

■ Included as standard are CINELITE II (CineLite, CineZone or custom false colors) and CINELITE ADVANCED.

■ The LV7330 can decode SMPTE 12M-2 time codes (LTC or VITC) and SMPTE 266M time codes (D-VITC) and display them. These codes can be used as timestamps in the event log.

■ Screen Capture feature. Captured displays can be viewed superimposed over an input signal, they can also be saved in the internal memory (RAM) or USB memory or sent to a PC through an Ethernet connection as bitmap data.

■ Up to 30 presets can be stored and recalled from the front panel or remotely via Ethernet connection.

■ The LV7330 backs up the current settings so that you can use the same settings that you were using before immediately after powering it up.

■ Universal AC Power Supply allows for worldwide use.

■ NEW! S-LOG2 and Custom False Colors display

AVAILABLE OPTIONS:

■ **HISTOGRAM & USER GAMMA DISPLAY - OP01:** This software option enables to show video signals on the LV7330 histogram display. It also enables to convert the user-defined gamma into ITU-R BT709 gamma and S-log, and show the converted signal on the picture display.

■ **GAMUT & LEVEL ERROR - OP02:** This option allows to identify the area and time specification in gamut error detection and detection of luminance and chrominance signal level errors.

■ **DIMENSIONS (Width x Height x Depth):**   8 1/2" x 1 3/4" x 9 7/8" (215mm x 44mm x 250mm)

■ **WEIGHT:**   2.9 lbs (1.3 Kg)

LF5 / LF990 SIGNAL LEVEL METER

LF5

LF5 is the Signal Level METER for the ISDB-Tb terrestrial broadcasting. By using LF5, you can find the best place, direction and height to erect a television antenna on the roof.

MAIN FEATURES:

■ Designed for ISDB-Tb
■ Accepts 5MHz – 870MHz / 950MHz – 2.5GHz
■ Measures RF level, C/N, BER, MER for digital measurements
■ Measures RF level for analog measurements
■ Three AAA batteries

UHF Digital	Level, BER, CN conversion(MER)
UHF Analog	Level
Power	Alkaline size AA batteries 3 pieces
Operating Time	24 hours of continuous operation
	3 hours and half (BER,CN)
	5 minutes use 30 minutes rest
Auto Power Off	5 minutes in no operation
Operating Temperature Range	0°C - 40°C
Size	H189×W62×D26mm
Weight	180g

LF990

MAIN FEATURES:

■ Designed specifically for the ISDB-Tb terrestrial format now being implemented in South/Central America.
■ Accepts 5MHz - 870MHz/ 950MHz - 2,600MHz (F-type connector; 75Ω)
■ Supports both digital and analog transmission systems to aid in the analog to digital transition.
■ Supports QPSK, 16-256QAM and OFDM for CATV operation.
■ Supports broadcast, cable operation.
■ Measures RF Level, C/N. BER, MER and DELAY PROFILE.
■ Provides Constellation display and Spectral Display.

■ Presets and measurement logs can be stored in USB thumb-drive for ease of use and documentation purposes.
■ Provides auto-channel search function for terrestrial and CATV.
■ Color LCD (TFT) display provides easy to read and understand displays.
■ Remote control via USB interface.
■ Lithium-Ion battery operation, battery and AC adaptor included.
■ GPS Data Logging Measurement Available as an Option

LT4100 / LT4110

LT4100

The LT 4100 is a sync generator that outputs HD-SDI or SD-SDI signals and six analog black signals.

MAIN FEATURES:
- **HD-SDI and SD-SDI Formats:** Both HD (four formats) and SD (two formats) are supported.
- **Audio Embedding:** The LT 4100 can embed eight channels (four channel_two groups) of audio signals.
- **Analog Black Output:** Equipped with six black signal outputs. The LT 4100 can output black burst signals in the same format as SDI output signals or tri-level sync signals.
- **1U, Full Rack Size**

LT4110

The LT 4110 is an analog black signal generator with CW lock and genlock functions.

MAIN FEATURES:
- The LT 4110 is an analog black signal generator with CW lock and genlock functions.
- Equipped a CW 10 MHz input that enables CW locking. A holdover function is available in case errors occur at the CW input.
- Genlock is used to synchronize to HDTV tri-level sync signals and NTSC/PAL black burst signals. A Stay-in-Sync function is available in case errors occur at the genlock input.
- Standard equipped with SNMP.
- Supports hot-swap capable redundant power supplies (option).
- The fan unit can easily be replaced even when the power is turned on.

Front panel   Rear panel

Replacement is possible
even when rack mounted.

LT4600 FORMAT VIDEO GENERATOR
Compact Sync Generator with 3G Capabilities

The compact, 1U half-rack sized, LT4600 Multiformat Video Generator is applicable to 3G-SDI, HD-SDI and SDSDI systems. Various output capabilities, such as color bar, SDI check field test pattern, ID characters, logo mark in QVGA size, safety area marker, embedded audio, genlock model for external reference synchronization, and three independent analog black signal systems.

MAIN FEATURES:

- Accepts 3G-SDI, Dual Link, HD-SDI and SD-SDI systems.
- SDI Outputs can be used independently from each other.
- The ID characters can be superimposed at any arbitrary position on the screen.
- A logo mark, up to 320 (pixels) by 240 (lines) in QVGA size can be superimposed at any arbitrary position on the screen Logo is converted from bitmap to four-grade monochrome data.
- A 90% and 80% safery-area markers can be superimposed on the screen.
- A 4:3 aspect ratio marker can also be superimposed in 3G-SDI or HD-SDI formats.
- Simple motion picture mode is provided to scroll the pattern.
- The 32 channels of embedded audio signals (link A and link B - each 4ch x 4 groups) for 3G-SDI (level B), and the 16 channels of embedded audio signals (4 ch x 4 groups) can be superimposed. The frequency and level can be respectively set for each channel.

- The instrument can be locked to NTSC/PAL black burst or HDTV tri-level sync signal.
- In case of genlock input errors, a Stay-In function is available.
- Three independent analog black signal outputs are provided. The black burst signal with the same format as the SDI output, or HDTV tri-level sync signal with the same format of clock frequency can be selected for variable timing.
- A 48 KHz word clock output and a 48 KHz AES/ EBU output is provided to synchronize the audio signal.
- It supports SNMP protocol to easily construct a network system.
- USB slot available on the front panel to save and update user data settings.

OPTIONS:

- Lip Sync Test Pattern (future)

- **DIMENSIONS (W x H x D):** 8.39" x 1.73" x 15.75" (213mm x 44mm x 400mm)

LT443D MULTI VIDEO GENERATOR
Main Frame

The LT443D Multiformat Video Generator Main Frame can be used where multiformat digital broadcast systems are the norm. Plug-in modules enable the output of SDI signals (i.e. HDTV, SDTV) embedded audio, sync signals and genlock functions. Users can customize this signal generator as desired.

MAIN FEATURES:
- Plug-in modules provide various functions
- Applicable to multiformat HDTV
- Assorted simultaneous outputs

- Easy-to-use sync signals
- Ethernet is standard
- User friendly operation

LT443D-HD (HD-SDI) MODULE
The LT443D-HD (HD-SDI Module) can generate 14 formats HD-SDI when used with the mainframe. Available functions include, Logo and ID Character display, embedded audio, simple motion of sixteen test patterns or natural picture. Natural picture display is available as Option70.

LT443D-HDB GENERATOR MODULE
LT443D-HDB Generator has all of the features and functions of the LT443D-HD high definition multiformat generator plus two standard HD digital black outputs.

LT443D-GLA GENLOCK MODULE
The LT443D-GLA Genlock Module has an external reference loop through and a 3-system independent black signal generator. External analog reference inputs can be NTSC/PAL black burst, 14 formats of HDTV tri-level sync or 525p/625p sync. It can also accept black burst with a 10 field ID as per SMPTE 318M. Output sync signals can be generated in 3-systems, as above, with independent timing. Both genlock and black sync timing have a 5 frame settable range for NTSC/PAL black burst and HDTV analog tri-level sync signal inputs.

LT443D-BL ANALOG BLACK MODULE
The LT443D-BL Analog Black Module can generate 14 formats of HDTV analog tri-level sync, 525p/625p analog sync and NTSC/ PAL black burst signals. It consists of 3 independent systems, each with 2 outputs, to provide simultaneous multiformat black sync signals. Each system can be assigned an output format capable of independent output timing. Also, it accepts a black signal with a 10 field ID conforming to SMPTE 318M.

LT443D-DA DIGITAL AUDIO MODULE
The LT443D-DA Digital Audio Module fits into the LT443D main frame and generates digital audio test signals. 4 pairs of AES/EBU audio signals are provided for a total of 8 channels; each pair is output onto a 75 Ohm BNC. Output level, frequency and audio click can be independently set for each output. Digital audio level can be swung from -60 to 0 dBFS and it is settable in 1dB steps. Test tones can be set from 50Hz to 20KHz (30 fixed steps) and silence. Sampling frequency is fixed at 48KHz and it is synced to the video signal from the LT443D; audio to video timing can be varied. 20 and 24 bit resolutions are supported. The module also provides a world clock output, as well, a separate output (1 BNC, 2 channels) of silence signal (DARS grade 2) is also provided.

OPTIONS:
- **LT443D-70 (NATURAL Picture Memory: Option70):** This option adds the NATURAL picture pattern output capability to the LT 443D mainframe. A compact flash memory card is used as an additional memory to store the NATURAL picture pattern.

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LT450 MULTI FORMAT PATTERN GENERATOR

The LT450 is a DTV-compatible multi-format pattern signal generator equipped with analog component, composite and digital (HDMI) outputs. Component outputs are settable to RGB or Y, Pb Pr and on/off control of each channel is provided. Separate composite and sync outputs are also provided. The instrument also provides separate level controls for sync and video - a feature most appreciated by those testing for sync sensitivity for example.

Ideal for any application requiring a variety of analog signals, the LT450 generates the most popular test patterns including monoscope, color bar, ramp, crosshatch, multiburst, character, and permits variations on each pattern (on/off control of RGB, signal inversion, aspect ratio change, etc). Additional outputs such as DVI-I and HDMI and analog outputs such as a SCART connector can be added as options.

MAIN FEATURES:

- With the formats available on the LT 450, you can test most video displays, including television sets, PC monitors, and projectors. The LT 450 supports 19 component output formats, 8 composite output formats, and 5 PC monitor formats.
- The LT 450 is equipped with an HDMI connector, which is a digital interface used in household televisions and set-top boxes. It can be used to check HDCP-compliant copyright protection functions and to make simple checks on the CEC and DDC functions (pass/fail results can be displayed on screen). Simple checks can be made simultaneously on up to seven outputs (when option units are installed).
- Analog and digital component outputs can be switched between G, B, R and Y, PB, PR signal formats.
- Equipped with an S connector for Y/C separation signal output. An ID signal is superimposed on the C signal.
- Equipped with a JEITA CP-4120 D5 output. Supports ID signals (lines 1, 2, and 3).
- Equipped with a mini D-sub 15-pin connector, which is an analog interface for PC monitors.

- Equipped with a DVI-I connector, which is a digital interface for PC monitors. It can be used to check HDCP-compliant copyright protection functions and to make simple checks on the DDC function.
- Equipped with sync signal connectors that transmit CS (trilevel or binary), HD, and VD signals. Analog audio output
- The frequency (400 Hz or 1 kHz) can be set and the output can be turned off separately for left and right channels.
- You can make any test pattern into a simple motion picture pattern by scrolling it vertically, horizontally, or diagonally.
- The video signal level and the analog sync signal level can be adjusted separately in the range of 0 to 100 %
- Supports closed captions. Teletext (VBI), CGMS, and WSS will be supported in the future.
  Remote control via RS232C
- The LT 450 can be remotely controlled from a PC.
- Up to 100 panel settings can be stored and recalled.

OPTIONS:

- **LT450-OP04:** Timing and picture tool for LT450

FS3140 FILE-BASED QC SOLUTION
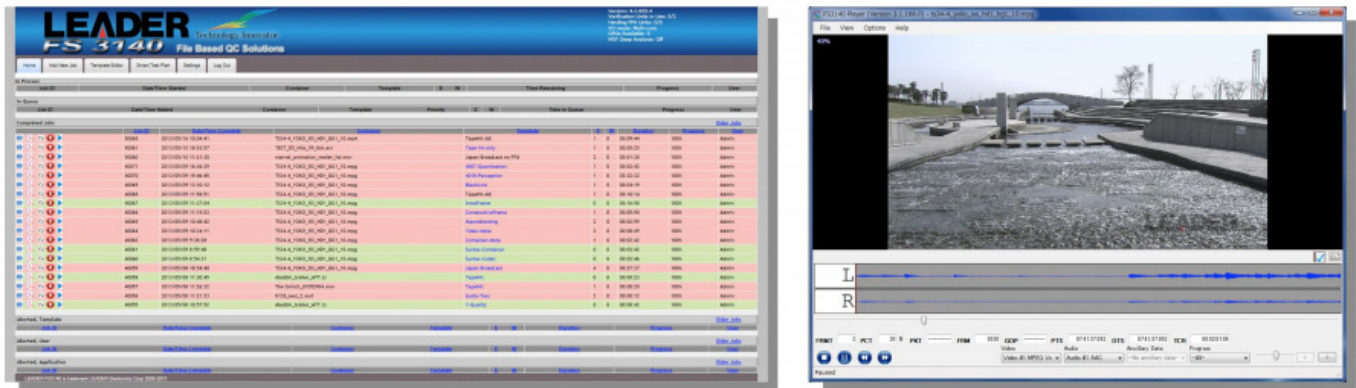
LEADER FS3140 QC Report GUI and frame-accurate file player

The FS3140 is an application software aimed at performing quality control routines on the contents of file-based media. Technically, operationally and commercially, FS 3140 offers the modern file-based media organization a convincing business case to be adopted as the QC tool of choice.

MAIN FEATURES:

■ **Faster QC analysis**: FS 3140 quality tests are faster with using the power of nVidia's CUDA technology to use the GPU as well as multi-core processing.

■ **Frame accurate viewer:** FS 3140 is closely integrated with our FS 3140 Player, enabling operators to easily and efficiently jump to the exact frame of a report issue.

■ **More File Wrappers and Codecs Support:** FS 3140 supports more video and audio codecs, ancillary data types and container/wrapper file types(and supports newly launched ones sooner) than any other solution on the market.

■ **Waveform and Vectorscope display:** An accurate waveform and vectorscope representation of the shot can be displayed.

■ **Comprehensive test parameter portfolio:** FS 3140 provides you with a wide portfolio of QC tests, many unique to LEADER, enabling reliable fault detection.

■ **Easier to integrate into your workflow:** Designed for Automated workflows, with processes built around a web-services API and native hot/watch folder monitoring.

■ **Easy to deploy:** FS 3140 API and user interface are all Web-based on a Windows server back-end, allowing rollout in Windows, Mac OS and Linux environments.

■ **Customizaable Test Templates:** Your test specification can quickly be imported into FS 3140 using our browser-based template editor to customize your content verification.

■ **Easy, Intuitive User Experience:** Intuitive browser-based User interface, with easy to access help system for each test and simple to read XML-based fault reports.

■ **Fewer False Positives:** FS 3140 focuses on identifying Issues that can be seen and head, using perception-based artifact detections, multi-level block noise analysis, silent black/freeze frame detection and filtered audio noise detectors.

■ **Trust Your Files Downstream, Faster:** Remove the QC Bottleneck from your operation with FS 3140's faster and more Accurate QC analysis…get your media assets making money.

FS8681 CAMERA TEST SYSTEM

FS 8681 is a software application that can be used to evaluate camera images.
*1 For a example, a measurement system consisting of a PC, I/O board, camera, chart box, and I/F box can be configured.

MAIN FEATURES:

■   Evaluation and Inspection can be performed on various types of cameras—including video cameras, surveillance cameras, IP cameras, and camera modules—to check for image distortion, color signals (phase and saturation), tone characteristics, resolution, S/N ratio, dirt/smudges, and so on.

■   Various types of input signals can be supported according to your needs. Supportable signals are 3G/HD/SD-SDI, HDMI, and NTSC/PAL.
    *2 LAN, USB, IEEE1394 are also supported. In addition, standalone image files (such as 4K2K images) can also be evaluated.

■   An intuitive graphical user interface is available for creating and editing measurement sequences. This makes it easy to run comprehensive evaluations, which include the controlling of peripheral devices, on a PC.

*1: Recommended OS: Windows 7 32 bit or 64 bit
*2: A specific I/O board (DeckLink Studio) by Blackmagic Design is required.

EVALUATE OK   EVALUATE NG   MESSAGE   PAUSE

Phabrix® Sx PORTABLE ANALYZERS
## TAG / SxA / SxD / SxE

Phabrix® TAG
HD-SDI,SD-SDI,Optical Composite IN/OUT 3G-SDI (option)

MAIN FEATURES:
- Multi-format Analyzer/Monitor
- SDI Generator option
- HD-SDI, SD-SDI & AES as standard
- 3G-SDI and 2K format options
- Analog Composite NTSC/PAL
- Balanced analog audio I/O
- Dual SFP cage for SDI-Optical and HDMI I/O
- High quality 16:9 picture monitor
- Waveform monitor, Vectorscope
- Reference waveform view, AES view
- 16 channel audio metering
- Dolby bitstream options available
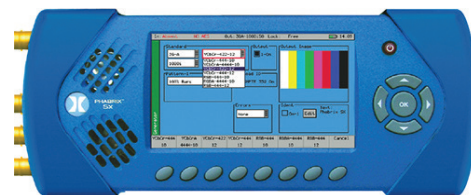
Phabrix® SxA
Generator/Analyzer/Monitor + AES

MAIN FEATURES:
- Generator, Analyzer and monitor
- Built-in 4.3-inch TFT display
- 3G/HD/SD SDI signals with AES
- 16 channels of embeded audio
- SDI analysis, anhanced remote control, advanced formats, 2K format, DOLBY® options and more...

Phabrix® SxD
Generator/Analyzer/Monitor + Dual Link

MAIN FEATURES:
- Generator, Analyzer and monitor
- Built-in 4.3-inch TFT display
- 3G/HD/SD SDI signals with dual link
- 350+ formats supported
- 16 channels of embeded audio
- SDI analysis, anhanced remote control, advanced formats, 2K format, DOLBY® options and more...

Phabrix® SxE
3 in1 Generator/Analyzer/Monitor with Eye and Jitter

MAIN FEATURES:
- Generator, Analyzer and monitor
- Built-in 4.3-inch TFT display
- 3G/HD/SD SDI signals with eye pattern/jitter
- Automated physical layer measurements
- 16 channels of embeded audio
- SDI analysis, anhanced remote control, advanced formats, 2K format, DOLBY® options and more...

More Information, please visit our website www.LeaderAmerica.com

Phabrix® Sx OPTIONS

SDI Data Display (PHSXOSD)   **Available For: SxA, SxD, SxE, and SxTAG**
This option provides a detailed display of the raw data in the SDI stream. The user has the ability to look at the data either in a grid display (x,y grid of pixel values in decimal or hexadecimal color coded for Y, Cb, Cr) or demultiplexed streams in dec, hex or binary form. The user has cursor controls to quickly locate the area of interest. The cursors are coupled to the video display and waveform monitor screens to confirm the location of data being observed.

Scripting with Print Report Option (PHSXOS)   **Available For: SxA, SxD, SxE, and SxTAG**
Command Scripts - This option allows a series of pre-defined actions to be run through within the PHABRIX portable instrument using a script stored in internal memory. It can be used to prompt a response or automatically complete a sequence, ie states and check field. Created as a simple text file on a PC, the script can be transferred to the unit via Ethernet and recalled at any time thus saving repeated test tasks or procedure set-up. A print report feature allows an internal HTML form to be auto filled with parameters set and subsequently downloaded and printed.

Enhanced Remote Control (PHSXOR)   **Available For: SxA, SxD, SxE, and SxTAG**
This option gives users full remote control of the unit via TCP/IP Sockets to allow any aspect of the unit to be modified or queried. This allows quite complex applications to be created to perform test and measurement functions such as automated testing of routers or other broadcast equipment.

Programmable Moving Zone Plate Option (PHSXOZ)   **Available For: SxA, SxD, SxE, and SxTAG**
The Programmable Moving Zone Plate option adds a range of pre-programmed zone plate patterns along with user defined controls over several parameters which can be saved to custom buffers.Using the Main menu > memories window, multiple saves of zone plates can be saved to the system by checking the video box and saving by name.

Advanced Formats Option (PHSXOF)   **Available For: SxA, and SxE**
This option includes 4:2:2 YUV, 4:4:4 RGB and 4:4:4 YUV at 10 or 12 bit and 3G Level A and B, and it's available for SxA and SxE models only. The SxD model comes with these formats loaded already. Among the support for 3G Level B is the ability to analyze signals such as SMPTE 425-B carrying one SMPTE 372M Dual-link payload.

Dolby D/D+/E Analysis Option (PHSXOBD-A)   **Available For: SxA, SxD, SxE, and SxTAG**
This option displays the Dolby D/D+/E metadata present in a selected audio stream and determines if the Dolby D/D+/E packet is timed correctly on the SDI video stream. The Dolby D/D+/E may be monitored from any of the SDI input embedded audio channel pairs or the AES input. Peak audio levels metering is also displayed.

Dolby D/D+/E Generation Option (PHSXOBD-G)   **Available For: SxA, SxD, SxE, and SxTAG**
The Dolby D/D+/E Generation option includes the ability to adjust the "start of frame" for Dolby D/D+/E packets. Dolby streams are provided for all program configurations with fixed audio data. Metadata can be edited by the user and stored in memories.

Dolby D/D+/E Generation and Analysis Option (PHSXOBD-AG)   **Available For: SxA, SxD, SxE, and SxTAG**
This option combines the functionality of options PHSXOBD-A and PHSXOBD-G into one.

Ancillary Data Status Option (PHSXOVNC)   **Available For: SxA, SxD, SxE, and SxTAG**
The Ancillary Data Status option provides a quick status view of the ancillary data present in a SDI signal. It does not decode the data fully and is intended to be a fast analysis tool to show if a packet type is present, absent or red if in fault. Full logging is available along with DID and SDID custom setup.

SDI 2K Formats Option (PHSXO-2K)   **Available For: SxA, SxD, SxE, and SxTAG**
The SDI 2K Format option for the Sx series supports the new SDI practice for HD and 3G Level A and Level B signal transfer of 2K advanced formats including 4:2:2 Y'C'BC'R, 4:4:4 R'G'B' and 4:4:4 Y'C'BC'R at 10/12 bit as well as 4:4:4 X'Y'Z' at 12-bit.

Advanced Eye and Jitter Analysis Option (PHSXOEA)   **Available For: SxE only**
This option adds an additional jitter screen plus enhancements to the eye display. It's available only for the SxE model. The extra features added to the eye and jitter module are focused toward broadcast manufacturers who have the need for high-end analysis tools. Histograms, decade filters, multiple eye display, full screen jitter display, and alignment and timing thermometers are all available with comprehensive logging.

Generator Option (PHSXT-GEN)   **Available For: SxTAG only**
The Generator option allows the creation of video test signals for analog composite video, SD-SDI and HD-SDI video as standard. 3G-SDI and 2K SDI can be purchased as an additional option. The generator option also allows the generation of both analog and digital audio test tones and allows the unit to be locked to an external locking reference.

3G Formats Option (PHSXT-3G)   **Available For: SxTAG only**
The 3G Formats option (Generator option required to generate 3G signals) includes 4:2:2 YUV, 4:4:4 RGB and 4:4:4 YUV at 10/12 bit and 3G level A and level B. Among the support for 3G level B is the ability to analyze signals such as SMPTE 425-B carrying 1 x SMPTE 372M Dual-link payload.

Optical Module Option   **Available For: SxTAG only**
The Optical module option supports a wide range of SFP modules covering analyzer and generator functionality. Please contact your LEADER Sales Representative for specific details.

Break-out Cable (PHSXT-BC)   **Available For: SxTAG only**
This break-out cable is available to provide AES input and output as well as calibrated balanced analog audio input and output to broadcast levels. Please contact your LEADER Sales Representative for specific details.

Phabrix® Rx PORTABLE ANALYZERS
Rx2000 / Rx1000

Phabrix® Rx2000

Dual Screen + Rasterizer, 2U with 4 module slots, up to 8 simultaneous SDI channels, HDMI/SDI 1920 x 1080 Full Resolution Output

The "Top of the Range" Rx2000 with 2 built-in screens along with HDMI/SDI output makes this an ideal instrument for outside broadcast facilities and engineering bays. The focused ergonomics of the Rx mean instruments are never more than two button presses from top level to instrument parameter control. Its clever "tilt-in bay" engineering allows the Rx2000 to be seen at various eye levels. The Rx2000 benefits from an angled slim profile of only 13cm of depth. As with all of the Rx range, each instrument is very lightweight and benefits from very low power consumption. The Rx2000 can take up to four modules offering 8 simultaneous SDI channels. Optical is supported via SFP which can be inserted into the cage built into each module providing 8 optical channels, if required.

MAIN FEATURES:

- 3 in 1 generator / analyzer / monitor
- 3G / HD / SD SDI
- HDMI Output
- Up to 8 simultaneous channels
- Dual screen

- Embedded audio (16ch) displayed simultaneously
- Single analyzer with dual input, eye pattern module, dual generator, 2K and 3G formats, DOLBY® Options and more...

Phabrix® Rx1000

Rasterizer, 1U with 4 module slots, up to 8 simultaneous SDI channels.

These rasterizers are unique in having an in-built OLED display allowing operators to see and select up to 99 presets. The Rx1000 offers Phabrix® T&M instrumentation in a 19" width 1U rasterizer format. Configured with a range of functions using its modular structure, the Rx1000 makes full use of its unique HDMI/SDI output with support for up to 4 modules. In addition, the Rx platform can be further enhanced with a range of software options available for these instruments. A simple software code will unlock these items at any time.

MAIN FEATURES:

- OLED screen + Rasterizer
- Up to eight sumultaneous SDI channels
- Four integrated module slots
- 16 channels of embedded audio as standard

- Speakers can be added for monitoring
- Single analyzer with dual input, eye pattern module, dual generator, 2K and 3G formats, DOLBY® Options and more...

Phabrix® Rx PORTABLE ANALYZER
Rx500

Phabrix® Rx500
Rasterizer, 1U half rack with 2 module slots, up to 4 simultaneous SDI channels.

For such a small profile the 1U half-rack Rx500 has plenty of power. Boasting the same tool set throughout the range, the Rx500 is a perfect solution where space is minimal. This small power house can be fitted with physical layer test and measurement modules providing 4 simultaneous SDI channels with optical support. An internal whisper quiet fan and clever extruded airflow profile makes this instrument cool in so many ways. As with all of the instruments provided in the Rx range, the more modules inserted into the chassis, the more cost effective this solution becomes for both audio and video test and measurement. As each new module is attached, the system will automatically seek its unique identity and make the changes to access new features within the menu structure. In addition, the Rx platform can be further enhanced with a range of software options available for these instruments. A simple software code will unlock these items at any time.

MAIN FEATURES:
- OLED screen + Rasterizer
- Up to four sumultaneous SDI channels
- Two integrated module slots
- 16 channels of embedded audio as standard

- Ideal when space is minimal
- Single analyzer with dual input, eye pattern module, dual generator, 2K and 3G formats, DOLBY® Options and more...

RX MODULES:
- Single Analyzer – Dual Input Module (PHRXM-A)
- Single Analyzer – Dual Input with Eye Module (PHRXM-AE)
- Single Analyzer – Single Generator Module (PHRXM-AG)
- Single Analyzer – Single Generator with Eye Module (PHRXM-AGE)
- Dual Generator Module (PHRXM-GG)
- AES Input & Output Module (PHRXM-4AES)
- Full Dolby Decode Board (PHRXM-DOLBY)

RX SOFTWARE OPTIONS:
- 3G-SDI and Advanced Formats (PHRXO-3G)
- HD/SD SDI Data Analyzer and Ancillary Packet Analyzer Option (PHSXO-SD)
- Dolby D/D+/E Analysis Option (PHRXO-BDA)
- Advanced Physical Layer Analysis Option (PHRXO-EA)
- SDI 2K Formats Option (PHRXO-2K)
- Simultaneous Display and Dual Operation of Single SDI Analyzer Option (PHRXO-AA)
- 4-Channel Loudness (PHRXO-4LOU)
- 4-Channel Closed Captions 608/708/WST/OP47 (PHRXO-4CAP)

For More Information and Additional Modules and Options, please visit our website www.LeaderAmerica.com

Legal 6

The LegalEyes is a fully-featured legalizer system incorporating a 1U ethernet chassis with a hardware front panel together with a web based java softPanel computer display. It provides legalization of the SD-SDI and HD-SDI Input signal with full 10 bit processing throughout. The LegalEyes legalizes the composite, YCC (Component) and RGB colour spaces; It has two Independent SD/HD SDI outputs, each changeable between "Legalized," "Raw" and "Indicate" out.

MAIN FEATURES:
- Now with 8 channels loudness level control channels configured as four AES stereo pairs.
- Legalizes 3G-SDI (option), HD-SDI and SD-SDI signals with full 10-bit processing.
- Audio Loudness Control/Correction Available
- Composite, YCC (Component) and RGB color space correction - each with settable limits.
- Two independent SD/HD SDI outputs - each settable as "Legalized," "Raw" and "Indicate" out.
- Adjustable clipping levels and adjustable soft clipping knee levels.
- Highly effective overshoot and undershoot suppression on the luminance signal.
- Integral Luma and Chroma gain, black level adjustment and hue rotation.
- A-85 standard legalization settings
- Log output with Timecode and PC viewer program included. Simple text based RS232 automation protocol. Compatible with EyeHeight's geNETics automation protocol.
- Mechanical relay bypass and redundant power supply options available.

- **NEW KARMA LOUDNESS:**
  This feature for LegalEyes KARMAudio RT embedded audio loudness and peak-program level control to industry leading RGB, composite or combined composite and RGB video legalization. Now users can ensure video gamut, loudness, and peak-program level compliance with a single cost-effective product. The KARMAudioRT algorithm in the LEGAL-6 continuously monitors the stereo or multi-channel embedded audio loudness using A-85 Loudness and True Peak measurement algorithms and applies instantaneous correction to ensure that loudness limit and peak-program level limits are enforced.

OPTIONS:
- **LEGAL-OP PSU:** Redundant Power Supply
- **LEGAL-OP BYPASS:** Multi-rate Relay Bypass Option on I/O Module

OTHERS

Trilogy's MENTOR XL

trilogy

Designed to satisfy the demands generated by mixed analogue, SD and HD/3G installations, Mentor XL is the most sophisticated and reliable Master Reference Generator available.

Analogue, SD and HD references and test signals are generated simultaneously for both 525 and 625 standards with independent timing control for all outputs to simplify system integration.

Multiple audio generators assignable for AES, embedded SD/HD, wordclock and stereo audio complete this fine instrument.

MAIN FEATURES:

- 525, 625, SD-SDI, HD-SDI, 3G
- Master Sync / Test generator
- Extensive test signal library
- GPS receiver for ultimate timing accuracy

- Independent audio generators for AES, embedded SDI and analog signals
- Tri-level sync outputs for all 720/1080 standards

MENTOR XL MASTER SYNC / TEST GENERATOR BUNDLES

MXL SYNC	Mentor XL Master/Slave Sync Pulse Generator Includes Vector Remote Configuration Browser. Base unit supplied with single power supply. Genlock loop thru, 10/5 MHz ref input; 5 x black/burst; 3 x SD-SDI black; 27/10MHz/word clock output; 2 in/2 out GPI; Ethernet port. All SDI and analogue outputs individually timeable. Simultaneous 525/60 and 625/50 operation. Package Includes : ● Mentor XL Main Frame (inc. Vector)
MXL PKG-01	Mentor XL Master/Slave Sync Pulse Generator with PAL/NTSC SD-SDI & HD-SDI. Includes Vector Remote Configuration Browser. Base unit supplied with single power supply. Genlock look thru, 10/5MHz ref input; 5 x black/burst; 3 x 27/10MHz/word output; 2 in/2 out GPI; Ethernet port. All SDI and analogue outputs individually timeable. Simultaneous 525/60 and 625/50 operation. Package includes : ● Mentor XL Main Frame (Inc. Vector) ● Video Test Patterns with SD and HD -SDI ● Audio Test Tones (Balanced AES and Stereo Analog)
MXL PKG-02	Mentor XL Master/Slave Sync Pulse Generator with PAL/NTSC SD-SDI & HD-SDI & TRI-LEVEL SYNC. Package Includes : ● MXL PKG - 01 ● XL-OP07 Tri-Level Sync option card
MXL PKG-03	Mentor XL Master/Slave Sync Pulse Generator with PAL/NTSC SD-SDI & HD-SDI & TRI-LEVEL SYNC & HD/3G-SDI. Package Includes : ● MXL PKG - 01 ● XL-OP07 Tri-Level Sync option card ● XL-OP11 HD/3G-SDI output option card
MXL PKG-04	Mentor XL Master/Slave Sync Pulse Generator with PAL/NTSC SD-SDI & HD-SDI & TRI-LEVEL SYNC, GPS & Timecode. Package Includes : ● MXL PKG - 01 ● XL-OP07 Tri-Level Sync option card ● XL-OP04 GPS Receiver ● XL-OP06 GPS Antenna and mount ● XL-OP03 Timecode Generator option ● XL-OP09 NTP Server

POPULAR ACCESSORIES

LV5490 4K Multi-SDI Monitor

LR-2490	Rackmount for LV5490
LC-2190	Blank panel for LV5490

LV5770 Multi-SDI Monitor Accessories

LV7770-01	Remote controller for LV7770/5770
LR-2770	Rackmount adapter for 5770
LR-2701	Rackmount storage box
LR-2404A	Cabinet without handle
LR-2427B-U	Cabinet with handle
LC-2170	Blank panel for dual rackmount

LV5330 Portable SDI Test Monitor Accessories

LV53-AD	Component/analog composite input
LV5330-OP73U	IDX battery mount (hardwired)
LV5330-OP73	IDX battery mount (pigtail)
LV5330-OP74U	Anton Bauer mount (hardwired)
LV5330-OP74	Anton Bauer mount (pigtail)
LR-2752-U	Rackmount for LV5330
LC-2130-U	Blank panel for LR-2752-U
Hood 80	Hood for LV5330
LV5330-FL	Fanless Cabinet
LC-2250-U	Carry case for the LV5330

LV5307 HDMI & SDI Test Monitor

HCB-5307	Hard Carrying Bag for LV5307
SV-5307	Sun Visor for LV5307
AR-5307	Anti-reflective Glass for LV5307
RM-5307	Rackmount for LV5307
RMBP-5307	Blank Panel for RM5307
BVM-5307	Battery V-mount for LV5307
DT-5307	D-Tap to XLR Power Cable for LV5307
TS-5307	Tabletop Stand for LV5307

LV5381/LV5382 Multi SDI Monitor

LC2129	Blank Panel
LC2151-U	Camera Arm Mount for LV5381/LV5382
LH2140	Handle for LV5381/LV5382
LR2751-I	Rack Mount for LV5381/LV5382 with Tilt
LR2751I-U	Rackmount for LV5381/LV5382 with no tilt

LV7770 Multi Rasterizer Remote Controller

LV7770-01	Remote controller for LV7770/5770

LV7330 HD/SD-SDI Rasterizer

LV7330-AD	Component/analog composite input
LR-2478	Rackmounts any two of LV7330
LR-2481-U	Rackmount for LV7330

PHABRX Sx TAG Accessories

Phabrix TAG Audio BC	D15 Break-out Analog Audio Cable (PHSXT-BC)
Phabrix OP TAG BNC	BNC Module for Phabrix Sx TAG SFP (PHSFP-RT30HDBNC)
Phabrix OP TAG AG131	Single SFP Output 1310nm Module (PHSXM-SFPAG-1310)
Phabrix OP TAG AG155	Single SFP Output 1550nm Module (PHSXM-SFPAG-1550)

PHABRIX Rx Accessories

Phabrix SFP-AA1350	Dual Analyzer Optical1350nm (PHRXM-SFPAA-1350)
Phabrix SFP-AA1550	Dual Analyzer Optical 1550nm (PHRXM-SFPAA-1550)
Phabrix SFP-AG1350	Single Analyzer/Generator Optical 1350nm (PHRXM-SFPAG-1350)
Phabrix SFP-AG1550	Single Analyzer/Generator Optical 1550nm (PHRXM-SFPAG-1550)
Phabrix SFP-GG1350	Dual Generator Optical 1350nm (PHRXM-SFPGG-1350)
Phabrix SFP-GG1550	Dual Generator Optical 1550nm (PHRXM-SFPGG-1550)
PHRXK1	Rackmount Kit for one (1) Phabrix Rx500
PHRXK2	Rackmount Kit for two (2) Phabrix Rx500

Test Monitor Products - Feature Selection Chart

Main Features	LV5490	LV5770	LV7770	LV5980	LV5381	LV5382	LV5307	LV5330	LV7330	Phabrix RX2000	Phabrix SxE	Phabrix SxD	Phabrix SxA
Supported Systems													
SD/HD-SDI Inputs (Outputs Max Simult.)	8(4)	2(2)	2(2)	4(4)	4(4)	2(2)	1(1)	2(1)	2(1)	2(1)	1	2	1
4K Inputs (Outputs Max Simult.)	2(1)												
Dual Link	Y	Y	Y	Y	OP	Y				OP		Y	
3G-SDI	Y	Y	Y				Y			OP	Y	Y	Y
HDMI Input						1	1						
Composite		OP03A	OP03A	LV53-AD			Pix only	Pix only	LV7330-AD				
Display System													
Built-In Display	9.0	6.3	6.3	17	8.4	8.4	7	6.5		2 X 4.5	4.5	4.5	4.5
Rasterizer Output	SDI/DVI-D	DVI-D	DVI-D				HDMI		DVI-I	HD-SDI			
Monitoring Modes													
Waveform / Vector	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eye Pattern	OP02	OP09A	OP09A							OP	Y		
Picture	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CINELITE/CINEZONE	Y	Y	Y	Y	Y	Y	CineZone	Y	Y				
5-Bar	Y	Y	Y	Y	Y	Y		Y	Y				
Status & Error Logs	Y	Y	Y	Y	OP	Y		Y	Y	Y	Y	Y	Y
Cable Length	Y	OP09A	OP09A							Y	Y	Y	Y
Timing Phase	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
Embedded Audio	OP03	OP41-43	Y	Y	OP	Y	BarsOnly	Y	Y	OP	Y	Y	Y
External Audio	OP03	OP41-43	Y	LV53-AD		LV53-AD		LV53-AD	2-Ch	OP	Y		Y
Lip-Sync		OP41-43	Y				Y						
Loudness		OP41-43	Y										
Dolby Decode	OP03	OP41D / OP43D	OP-Dolby							Y			
Other Features													
Built-In Generator; 3G/HD/SD-SDI	Y						Y			OP	Y	Y	Y
DC Powered				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tripod Mountable				Y	Y	Y	Y	Y					
Handheld				Y	Y	Y	Y	Y			Y	Y	Y
Rackmountable	1/2RK 4RU	1/2RK 3RU	1RK 1RU	1RK 8RU	1/2RK 4RU	1/2RK 4RU	1/2RK 4RU	1/2RK 3RU	1/2RK 1RU	1RK 2RU			

This catalog is only a summary of our product line and it was developed as a quick update for our markets in the Americas. For a complete look at our products, please visit us on the web at www.LeaderAmerica.com

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